

Rock Firefinch *Lagonosticta sanguinodorsalis* and its brood parasite, Jos Plateau Indigobird *Vidua maryae*, in northern Cameroon

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L'Amarante de roche *Lagonosticta sanguinodorsalis* et son parasite, le Combassou de Jos *Vidua maryae*, au nord du Cameroun. L'Amarante de roche *Lagonosticta sanguinodorsalis* est une espèce extrêmement locale seulement connue avec certitude, avant 2005, des flancs de collines rocheuses et herbeuses au nord du Nigeria. Récemment, plusieurs observations au nord du Cameroun indiquent que sa répartition est plus étendue ; ces observations sont récapitulées ici. Le Combassou de Jos *Vidua maryae* est un parasite de l'Amarante de roche et était supposé être endémique au Plateau de Jos du Nigeria. L'auteur rapporte une observation de mars 2009 dans le nord du Cameroun de combassous en plumage internuptial, qui imitaient les émissions vocales de l'Amarante de roche. Des sonogrammes de leurs imitations du hôte sont présentés, ainsi que des sonogrammes de cris de l'Amarante de roche. Comme il est peu probable qu'une autre espèce de combassou parasiterait un amarante aussi local, il est supposé que ces oiseaux représentent une population auparavant inconnue du Combassou de Jos dans le nord du Cameroun.

Rock Firefinch *Lagonosticta sanguinodorsalis* was described only 12 years ago, from the Jos Plateau in northern Nigeria (Payne 1998). It belongs to the African/Jameson's Firefinch *L. rubricata* / *rhodopareia* clade of firefinches (Payne 2004), and is similar to African Firefinch, Mali Firefinch *L. virata* and Chad Firefinch *L.*

umbrinodorsalis, but differs from these species in having a reddish back in the male. The combination of a blue-grey bill, reddish back and grey crown in the male is diagnostic. Uniquely, Rock Firefinch was discovered by song mimicry of its brood parasite, Jos Plateau Indigobird *Vidua maryae*. Jos Plateau Indigobird was first found



Figure 1. Male Rock Firefinch *Lagonosticta sanguinodorsalis* near Mora, northern Cameroon, on 12 March 2009. Birds from northern Cameroon may have less extensive grey on the head than birds from the Jos Plateau (Simon Colenutt)
Amarante de roche *Lagonosticta sanguinodorsalis* mâle près de Mora, Cameroun du nord, 12 mars 2009. Les oiseaux du nord du Cameroun ont peut-être moins de gris sur la tête que ceux du Plateau de Jos (Simon Colenutt)

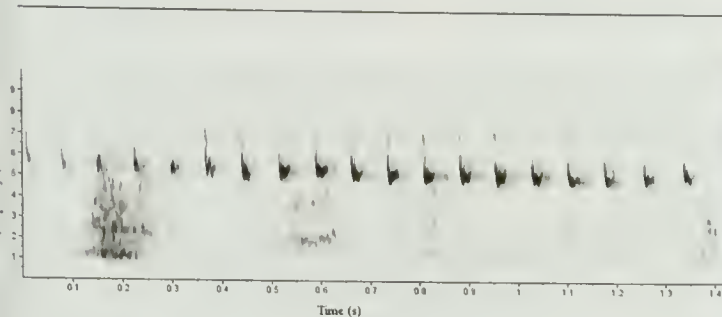


Figure 2. Sonogram of mimicry by Jos Plateau Indigobird *Vidua maryae* of the most common vocalisation of Rock Firefinch *Lagonosticta sanguinodorsalis*, a rapid descending trill of 12–13 notes per second, recorded near Mora, northern Cameroon, 13 March 2009.

Sonogramme de l'imitation du Combassou de Jos *Vidua maryae* de l'émission vocale la plus commune de l'Amarante de roche *Lagonosticta sanguinodorsalis*, un trille descendant rapide de 12–13 notes par seconde, enregistrée près de Mora, Cameroun du nord, 13 mars 2009.

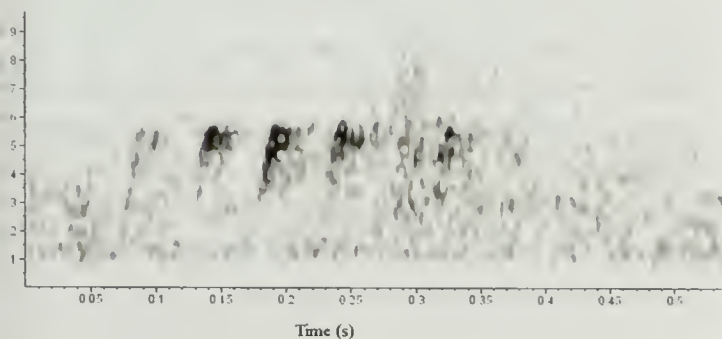


Figure 3a. Sonogram of mimicry by Jos Plateau Indigobird *Vidua maryae* of Rock Firefinch's *Lagonosticta sanguinodorsalis* contact trill, recorded on 12 March 2009, near Mora, northern Cameroon.

Sonogramme de l'imitation du Combassou de Jos *Vidua maryae* du trille de contact de l'Amarante de roche *Lagonosticta sanguinodorsalis*, enregistrée près de Mora, Cameroun du nord, 12 mars 2009.

Figure 3b. Sonogram of the contact trill of Rock Firefinch *Lagonosticta sanguinodorsalis*, recorded near Mora, northern Cameroon, 12 March 2009.

Sonogramme du trille de contact de l'Amarante de roche *Lagonosticta sanguinodorsalis*, enregistré près de Mora, Cameroun du nord, 12 mars 2009.



Figure 4. The non-breeding (presumed) male Jos Plateau Indigobird *Vidua maryae* whose mimicry of Rock Firefinch *Lagonosticta sanguinodorsalis* vocalisations are visualised in Figs. 2 and 3a. The whitish bill and purplish-grey legs are consistent with those of Jos Plateau Indigobird (Simon Colenutt)

Le Combassou de Jos *Vidua maryae* présumé mâle en plumage internuptial dont les imitations des émissions vocales de l'Amarante de roche *Lagonosticta sanguinodorsalis* sont représentées par les Figs. 2 et 3a. Le bec blanchâtre et les pattes gris pourpre sont caractéristiques du Combassou de Jos (Simon Colenutt)

in 1968, and initially described as a subspecies of Dusky Indigobird *V. funerea* because it was thought to mimic African Firefinch calls (Payne 1982). Subsequent investigation revealed that it mimics unique calls and differs in morphology, although it differs only in size from Jambandu Indigobird *V. varicola*, from Barka Indigobird *V. larvaticola* by having a slightly darker wing, and from Quailfinch Indigobird *V. nigeriae* by its slightly brighter gloss and larger size (Payne 1996).

At the time of its description, Rock Firefinch was known mainly from the Jos Plateau in Nigeria (09°56'N 08°53'E), but also tentatively from the Mandara Mountains on the border with Cameroon (11°04'N 13°45'E) and from near Rano, in Kano State, Nigeria (11°33'N 08°34'E). Other records of 'African Firefinch' from northern Nigeria were also suspected to belong to the newly described species, as were records from northern Benin and Burkina Faso (Payne 2004). The distribution of Jos Plateau Indigobird was confined to the Jos Plateau.

Recently, several reports of Rock Firefinch have come from northern Cameroon, in similar habitat—bushy and grassy rocky outcrops (Brandt

Table 1. Records of Rock Firefinch *Lagonosticta sanguinodorsalis* from northern Cameroon
Tableau 1. Mentions de l'Amarante de roche *Lagonosticta sanguinodorsalis* du Cameroun du nord

Date	Observer	Details	Locality
Mar 2004	C. Cohen (pers. comm.)	2 probable	20 km north of Maroua
Feb 2005	N. Borrow (<i>in Bull. ABC</i> 12: 179)	1 female	5 km north of Maroua
Mar 2005	A. Riley & R. White (<i>in litt.</i> 2005)	2 birds	north of Maroua
Mar 2005	A. Riley & R. White (<i>in litt.</i> 2005)	12 birds	Lagdo Lake, c.40 km south-east of Garoua
Apr 2006	D. Hoddinott (<i>in litt.</i> 2006)	12 birds	north of Maroua
Mar 2007	M. S. L. Mills (pers. obs.)	c.10 birds	10 km south-west of Mora
Apr 2007	K. Valentine (<i>in litt.</i> 2007)	2 birds	north of Maroua
Oct 2007	C. Artuso (<i>in litt.</i> 2007)	6 birds	north of Mora
Mar 2008	N. Borrow (pers. comm.)	several	5 km north of Maroua
Mar 2008	M. S. L. Mills (pers. obs.)	1 pair	110 south-south-west of Maroua
Mar 2009	M. S. L. Mills (pers. obs.)	20–30 birds	10 km south-west of Mora

& Cresswell 2008)—in the vicinity of Maroua (10°36'N 14°20'E) and Mora (10°58'N 14°12'E). The first potential record was by C. Cohen in March 2004 (pers. comm.), although the first published record (in *Bull. ABC* 12: 179) was from 2005, a sighting by N. Borrow, who found a single female on a rocky outcrop c.5 km north of Maroua. Since then, repeated sightings in the Mora–Maroua area (Table 1) indicate that this species is at least fairly common here during the dry season, and almost certainly a resident breeder. I have also once recorded birds further south, nearer Garoua (09°44'N 13°50'E; 110 km south-southwest of Maroua), also at a rocky outcrop, although these birds were only seen briefly. A better sighting would have been preferable to be certain of their identity, although the only other possible candidate is Chad Firefinch, which was recently rediscovered in Cameroon (Voaden 2008). There are also unpublished records of Rock Firefinch from Lake Lagdo (09°03'N 13°41'E), south of Garoua, <90 km from where Chad Firefinch was found (see Table 1). These should be treated as unconfirmed until further data become available. Rock Firefinches from Cameroon and the Mandara Mountains appear to differ slightly from those from the Jos Plateau, by having less grey on the crown in the male (see Fig. 1), although the difference is slight and poorly documented, and their calls are reported to be the same (Abakala *et al.* submitted).

Given the relative abundance of Rock Firefinch in northern Cameroon, and because indigobirds

often show similar distributions to their hosts, it could be expected that Jos Plateau Indigobird should occur in Cameroon also. However, few ornithologists and birders visit northern Cameroon during or shortly after the rains, when indigobirds are in breeding plumage and on their songposts. Indigobirds rarely sing outside the breeding season and are generally impossible to distinguish in the field in non-breeding plumage.

On 12 March 2009, I was searching for Rock Firefinch and other rocky-country birds with a group of nine other birders, on some rocky hills just south of Mora, where I had seen Rock Firefinch in March 2007. Shortly after sunrise I could hear calls and song of firefinches coming from the base of the hills, and soon we found a loose flock of c.20 Rock Firefinches. While observing the firefinches, I made recordings of their contact trills.

After c.30 minutes of observations, I heard the distant calls of an indigobird *Vidua* sp. I scanned the tops of trees in the direction of the call, and located a non-breeding bird singing from a *Faidherbia albida* tree at the base of the rocks, in the company of at least two other indigobirds. I quickly moved closer so I could observe their vocalisations and plumage in more detail. I played some generic indigobird calls to try to stimulate singing, and fortunately the birds sang again. Included in the generic ramble of indigobird calls was mimicry of at least two different Rock Firefinch vocalisations, which I recorded using an Edirol R09 recorder with a Sennheiser MKE400

microphone. Recordings were inspected and sonograms produced using Raven Lite software (Cornell Lab of Ornithology 2003–08).

The most common and distinctive call of Rock Firefinch is described as a rapid descending trill of 12–13 notes per second (Payne 2004). This call, visualised in a sonogram (Fig. 2), was made by Jos Plateau Indigobird, and delivered at a rate of 13.6 notes per second ($n=1$). A second call, a short trill, was mimicked by Jos Plateau Indigobird; a sonogram is presented in Fig. 3a. Analogous calls by Rock Firefinch were recorded and are presented as a sonogram in Fig. 3b. Call structure (shape of notes), rate of delivery and frequency are nearly identical, although the firefinch trill consisted of more notes. Male breeding plumage gloss colour and intensity were not observed, although bill (whitish) and leg colour (purplish-grey; Fig. 4) are consistent with Jos Plateau Indigobird. Given the small range of Rock Firefinch, it is highly unlikely that another indigobird species parasitises the population in northern Cameroon. Hence, it can be safely assumed that these birds represent a previously unknown population of Jos Plateau Indigobird in northern Cameroon. Further investigations during the indigobirds' breeding season should enable a better understanding of the distribution and abundance of Jos Plateau Indigobird in Cameroon.

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References

- Abalaka, J. I., Ottosson, U., Tende, T. & Larson, K. Submitted. Rock Firefinch *Lagonosticta sanguinodorsalis* in the Mandara Mountains, north-east Nigeria: a new subspecies? *Bull. ABC*.
- Brandt, M. J. & Cresswell, W. 2008. Breeding behaviour, home range and habitat selection in Rock Firefinches *Lagonosticta sanguinodorsalis* in the wet and dry season in northern Nigeria. *Ibis* 150: 495–507.
- Cornell Lab of Ornithology. 2003–08. *Raven Lite 1.0*. Ithaca, NY: Cornell Lab of Ornithology.
- Payne, R. 1982. Species limits in the indigobirds (Ploceidae, Vidua) of West Africa: mount mimicry, song mimicry, and description of new species. *Misc. Publ., Mus. Zool., Univ. of Michigan* 162: 1–96.
- Payne, R. 1998. A new species of firefinch *Lagonosticta* from northern Nigeria and its association with the Jos Plateau Indigobird *Vidua maryae*. *Ibis* 140: 368–381.
- Payne, R. B. 1996. Field identification of the indigobirds. *Bull. ABC* 3: 14–25.
- Payne, R. B. 2004. Rock Firefinch *Lagonosticta sanguinodorsalis*. In Fry, C. H. & Keith, S. (eds.) *The Birds of Africa*. Vol. 7. London, UK: Christopher Helm.
- Voaden, N. 2008. Chad Firefinch *Lagonosticta umbrinodorsalis* 'rediscovered' in northern Cameroon. *Bull. ABC* 15: 238–241.

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